Out Front Technology

ZIPPER

OPERATORS MANUAL

ENGLISH

TRACTOR MODEL:
MTS2611K

CUTTING DECK MODEL:
MTS4411, MTS5411

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SAFETY FIRST

IMPORTANT: DO NOT attempt to start the engine or operate this machine until you have read all safety information and operating procedures in this manual.

This is a Safety Alert Symbol used to alert you to possible danger to you or someone else's personal safety. Be alert to the accompanying messages in this manual**.**

CAUTION:

Your **ZIPPER MOWER** is equipped with an Ignition Interlock Safety System. This system is designed to protect the operator and others in the immediate area by preventing the engine from starting when the PTO switch is on or the Steering Levers are not in the locked position.

IMPORTANT: Listed below are a common set of rules you should read and follow. **REMEMBER**, your safety and the safety of others depends on the operator's awareness and adherence to these basic rules. Know the controls and how to stop safely**.**

READ THE OPERATORS MANUAL

DO NOT allow children to operate the mower.

DO NOT allow adults to operate without proper instruction.

DO NOT carry passengers. Keep children and pets a safe distance away.

DO NOT stop or start suddenly when going up or downhill. Mow up and down the face of steep slopes; never across the face of the slope.
Clear the work area of objects which might be picked up and thrown.

DO NOT fill tank indoors and wipe up any spilled gasoline

DO NOT run the engine indoors exhaust fumes are dangerous.

Disengage clutch and lock steering levers in neutral before attempting to start the engine.

Disengage clutch, stop engine and set parking brake before leaving the operator's position.

Disengage clutch when transporting or not in use.

Disengage clutch and stop engine before making any repairs of adjustments.

Take all possible precautions when leaving the mower unattended, such as disengaging the PTO, lowering the deck, locking the steering levers in neutral, setting the parking brake, stopping the engine and removing the key.

Reduce speed and exercise extreme caution on slopes and in sharp turns to prevent tipping or loss of control. Be especially cautious when changing direction on slopes.

Always stay alert for holes, rocks, and roots in the terrain and other hidden hazards.

Watch out for traffic when crossing or near roadways.

When using any attachments, Always operate the cutting deck with deflector chute in place and in the lowered position. **NEVER** direct discharge of material toward bystanders or allow anyone near the mower while in operation.

Handle gasoline with care (it is highly flammable)
Use approved gasoline container.
Never remove the fuel cap or add gasoline to a running or hot engine.

Keep the tractor and attachments in good operating condition and keep safety devices working properly.

Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.

SAFETY FIRST (CONT.)

Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark.

Allow engine to cool before storing in any enclosure.

To reduce fire hazard, keep the engine free of grass, leaves, or excessive oil and grease.

The tractor and attachments should be stopped and inspected for damage after striking a foreign object, and the damage should be repaired before restarting and operating the equipment.

DO NOT change the engine governor settings or over speed the engine.

When using the mower, proceed as follows:
Mow only in daylight or in good artificial light.
Never make a cutting height adjustment while engine is running.
Shut off engine when removing the grass catcher or unclogging the chute.
Check the blade bolt tightness at frequent intervals.

Disengage power to mowing deck before backing up.

DO NOT mow in reverse unless absolutely necessary and then only after careful observation of the entire area behind the mower.

PREDELIVERY INSPECTION

NOTE TO CUSTOMER: The **ZIPPER DEALER** is expected to complete the following pre-delivery operations and review all safety precautions in this manual **WITH YOU** before or upon delivery of this machine.

REGISTRATION AND DELIVERY

Fill out the warranty registration card and mail the proper copy to ZIPPER MOWERS within Ten business days.

Warranty is registered under Model and Serial Number located under the front of the left hand control panel on the tractor and under the left hand deck cover on the deck.
Upon delivery of the machine, the dealer is to review all the controls and how to operate the unit as covered in this manual with the owner.

Emphasize all the safety precautions covered in the manual.

Both dealer and customer must sign the warranty registration card upon delivery.

NOTE: All references to "Right, Left, Front, and Back" are from sitting in the drivers' seat.

WHEELS

Remove packing crate from the machine and install the drive wheels and tail wheel. Fill the tail wheel with grease

BATTERY

Connect positive cable first, then connect the ground cable.

IGNITION INTERLOCK SAFETY SYSTEM

⚠ **DANGER:** Failure of the **IGNITION INTERLOCK SAFETY SYSTEM**, together with operation of the machine could result in personal injury.

Check the Interlock Safety System to make sure it is functioning properly. The engine must not start unless the steering levers are in the neutral locked position and the PTO switch is off. The engine must kill if the operator leaves the seat with the steering levers down and/or PTO switch in the on position.

BEFORE OPERATION

The following list should be performed before starting the engine on a new machine.

1. Check the engine oil level (see engine manual for oil recommendations)
2. Check the oil level in the hydrostatic oil tank located at the back of the engine cavity under the left hand control panel. The oil level should be 1" below the top of the tank.

BEFORE OPERATION (CONT.)

3. (See Hydraulic System for oil recommendations)
4. Fill fuel tank with fresh clean gasoline (see engine manual for recommended fuels)
5. Check tension on the hydraulic pump drive, deck drive, and blade drive belts. (see belt adjustment section for proper belt adjustments)
6. Check pressure in all tires (Figure 1) The drive wheels and gauge wheels must have equal pressure to maintain an even cut.

TIRE PRESSURE	PSI
Drive Tires	12 to 16
Tail Wheel	10 to 18
Gauge Wheel	8 to 12

Figure 01

INSTALLING THE CUTTING DECK

The following steps are recommended for installing the deck:

Remove the deck from the shipping box and place on level surface in front of tractor.

Install gauge wheel brackets using 5/16-18 carriage bolts, lock washers and hex nuts. Install gauge wheel adj. tube and deck adj. bolt and nut. Install grass chute by starting the hinge pin from the back of the deck through the first hinge on the grass chute and deck. Place the grass chute spring over the hinge pin and slide the hinge pin through the front hinge on the deck and grass chute. Place the handle of the pin in the retainer on the grass chute and lock into place with the cotter hairpin.

Figure 08A

⚠WARNING: **Do not operate deck without grass chute spring installed**.

Check the blade bolts to be sure they are tight. Also remove deck cover and check the deck belt tension.

Check deck for level and correct pitch.

⚠**WARNING:** Never operate the deck without grass chute and belt guard in place.

1. Remove (2) 1/2 bolts from lift arm ball joint and (2) 1/2 adj. pins from back of deck.
2. Remove belt guard from deck gearbox.
3. Raise deck lift to the middle position, align deck under arms and lower lift to down position. Install bolts through deck and ball joints.
4. Place drive belt over gearbox pulley and replace belt guard.
5. Raise deck lift enough to install adj. pins at desired cutting height.
6. Raise deck to full up position and install front gauge wheels and set mounts at desired cutting height.
7. Lower deck and adj. the deck drive belt.

⚠**WARNING:** Only operate the deck while sitting in the operator's seat. Make sure the area is clear of all hazards, persons, and pets when running the deck

OPERATION

NOTE: The design and configuration of equipment, hazard control and accident prevention are dependent upon the proper training of personal involved in the operation, transportation, maintenance and storage of the equipment. DO NOT let children or unqualified operators run the equipment.

STARTING THE ENGINE

NOTE: The PTO switch must be in the off position and the steering levers in the neutral lock position before the engine starter will engage. In this manual it will be referred to as the **IGNITION INTERLOCK SAFETY SYSTEM. (IISS)**

WARNING: never operate this machine with the **IISS** disconnected, bypassed or malfunctioning.

STARTING THE ENGINE (CONT.)

WARNING: Engine exhaust gases contain poisonous carbon monoxide. Avoid breathing fumes and never run the engine in a closed building or confined area**.**

IMPORTANT: Always apply the parking brake before starting the engine.
Pull choke out to the **CLOSED** position. On a warm engine leave choke in the **OPEN** position.
Open throttle to half speed.
Turn ignition key to **START.** Return key to **ON** position as soon as engine starts.
NOTE: The ignition switch has an integrated light switch so it has 2 **ON** positions; one is to turn on headlights.
Slowly push the choke down to the **OPEN** position after the engine starts to warm up.

Allow the engine to warm up at a low RPM for 2 to 5 min. before putting the engine under full load.

IMPORTANT DO NOT crank the engine continuously more than 10 seconds at a time. If the engine does not start, allow a 1 min. cool down period between start attempts. Failure to follow these guidelines can burn out the starter.

STOPPING THE ENGINE

Run engine at half speed for a minimum of one minute with no load for cool down purposes**.**

Turn ignition key to **OFF** and remove key.

BRAKING

Forward or reverse movement is slowed or stopped by returning the steering levers toward the neutral position.

NOTE: The parking brake is for parking only.
DO NOT use the parking brake to slow or stop the machine or you risk damage to the hydraulic drive system.

STEERING

The steering levers control forward and reverse movement, speed of travel as well as turning and braking. Each lever controls the direction and speed of the corresponding drive wheel. To go forward, push both levers forward at the same time. To go backward, pull both levers toward the operator at the same time. To turn the machine to the right, move the right lever back and/or the left lever forward. To turn left, move the left lever back and/or the right lever forward.

NOTE: When turning always make sure both drive wheels are rotating this helps prevent turf damage.

CAUTION: Any sudden movement of the steering levers will result in sudden braking or opposite direction of travel.

LIFTING THE ATTACHMENTS

WARNING: Never travel at road speeds with the attachment in the raised position.

The mower is equipped with an electric lift to raise and lower the attachments. To rise the attachments push down on the forward half of the lift switch. (Located on the L/H control panel forward of the steering lever) To lower, push down on the aft side of the lift switch.

LIFTING THE ATTACHMENTS (CONT.)

The mower deck should always be operated with the lift in the full down position. Hold the lift switch down until you hear the lift make a ratcheting sound. This allows the deck to float over uneven terrain.

On side hills, you can add extra traction to the drive wheels by raising the lift up just until the back of the deck begins to rise

ENGAGING THE DECK OR ATTACHMENTS

The deck is driven by an electric clutch attached to the engine crankshaft. To engage the deck, set the engine throttle to 1/3 speed and lift up on the PTO switch located on the R/H control panel aft of the steering lever. (red switch)

WARNING: Operator must be in the seat for the PTO to activate. If the attachment runs without the operator in the seat, stop engine and repair IISS before further use.

When side discharge deck of other attachments are used, extreme caution must be taken not to direct discharge in the direction of persons or pets For best operation of the deck, the engine should be run at full throttle and the ground speed controlled by the steering levers.

SERVICE AND ROUTINE MAINTENANCE

WARNING: When servicing the machine, shut down machine, remove key, lock steering levers in neutral lockout and set parking brake.

The table Figure 00 is for your quick reference. The maximum intervals between services are listed. If dry and/or dusty conditions are encountered, time between service should be decreased.

NOTE: Routine lubrication and maintenance are the most important steps toward longer machine life, reducing down-time, upkeep costs, increasing productivity and quality mowing

IGNITION SAFETY SYSTEM

Check the IISS daily, prior to operation. This system is important to the safety of persons in the area as well as operator safety. It should be repaired immediately if malfunctioning. To check the system, follow these steps.

Begin with the parking brake engages, PTO switch off and steering levers in neutral lock position.

Move the steering levers into the operating position and turn the ignition key to start. The starter should not respond.

Return the levers to the neutral lock position and pull the PTO switch to on and turn ignition key. The starter should not respond.

If the starter responds to either of these tests, turn off ignition switch and make necessary corrections before further operation of the machine. Otherwise proceed with preoperative checks.

SEAT SWITCH

The seat switch should be checked before each operation. The machine should not be operated with an inoperative switch. To check the seat switch, follow these steps.

Start engine while seated in the operators' seat. Move steering lever to operating position and rise from the seat- the engine should kill.

Move the steering lever back to neutral lock and restart the engine. Pull the PTO switch to on position and rise from the seat – the deck should disengage and the engine should kill.

If the engine fails to kill during either of these tests, turn off ignition switch and correct immediately.

BREAK IN SERVICES

A new engine requires special break-in maintenance. Read the appropriate section of the engine manual. Engine oil and filter should be changed after first 5 hours of operation.

BREAK IN SERVICES (CONT.)

All new belts should be checked and adjusted after the first 5 hours of operation. See belt adjustment section on proper belt adjustment.

⚠**WARNING:** Never check or adjust any belts with engine running. Never operate machine without replacing belt guards after adjusting belts.

HYDRUALIC SYSTEM

IMPORTANT: Care must be taken to keep any dirt or moisture from entering the hydraulic

HYDRAULIC SYSTEM (CONT.)

system. Minute amounts of either will greatly reduce the life of the components. Care should be taken to remove all dirt from around the breather cap before removal.

The hydraulic tank is located under the seat lid mounted on the forward cross support.

Check hydraulic oil daily. Oil level should be at or above fill the line when cold. To check the oil, remove breather cap, oil should be visible in the contaminant screen inside the tank.
IMPORTANT: Use only 15W-50 full synthetic engine oil in the hydraulic system and an approved 25-micron rated oil filter.

The hydraulic filter should be changed after the first 100 hours of operation, then every 500 hours thereafter.

NOTE: If the performance of the drive system becomes sluggish or there is an appearance of dirt or water in the oil, the oil and filter should be changed in the system.

Great care must be taken to insure that all particles that may cause contamination to the system be removed from around the filter and housing before removal. To clean around the filter use a solvent and brush to remove oil and dirt. Then use compressed air to remove any final debris from the area.

IMPORTANT: Always keep the transmission pump fins, cooling fins clean. If a fan becomes damaged replace it with a new one before next use. Extra heat caused by oil and dirt build up on the pump fins will cause premature wear on the hydraulic system.

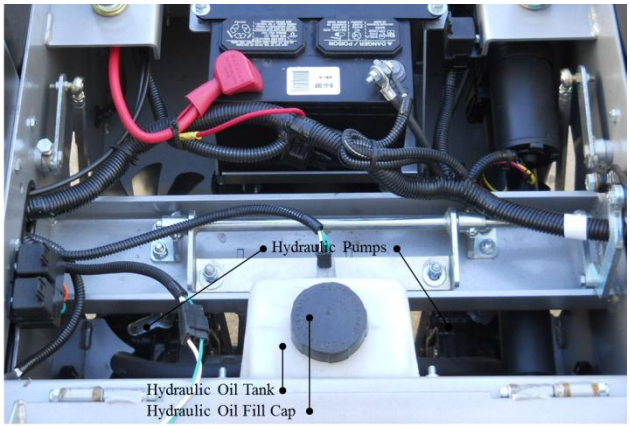


Figure 03A

DECK GEARBOX

The deck gearbox is a sealed unit and is filled with 6 oz of 90-weight oil. **NOTE:** Do not overfill; gearbox should be about half full (Figure 09A).

Figure 09A

ELETRICAL SYSTEM

The electrical system is a 12-volt neg. ground. The factory-installed battery is a U1L9. The battery is located under the seat lid. Check battery connections every 40 hours to ensure they are clean and tight.

ELECTRICAL SYSTEM (CONT.)

WARNING: When jumpstarting a low or dead battery, keep away from open flame or

ELECTRICAL SYSTEM (CONT.)

spark. Always wear eye protection. Do not breathe battery fumes and avoid skin contact with battery acid. If contact does occur, flush area with cold water and consult physician.

WARNING: When jumpstarting a battery follow these steps to avoid sparks that could cause gases to explode.

1. Attach the first jumper cable from the positive (+) terminal of the good battery to the positive (+) of the dead battery.
2. Attach the second cable from the negative (-) terminal of the good battery to the negative (-) terminal of the dead battery.

IMPORTANT: A 30-amp fuse protects the electrical system. If there is an overload on the circuit, the fuse will blow. The cause of the overload should be located and fixed before installing a new fuse.

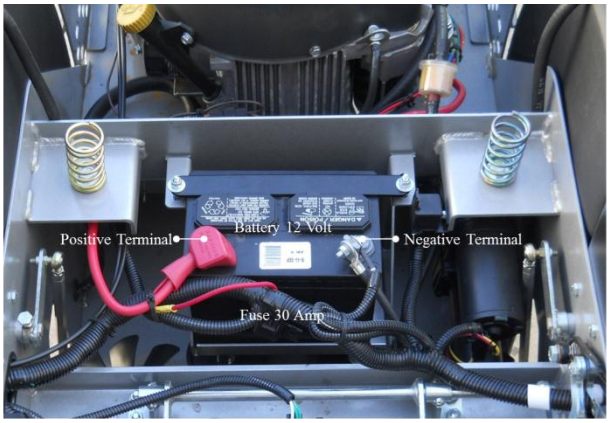


Figure 03B

ENGINE OIL SYSTEM

Check engine oil level at the start of each day and again after 4 hours of operation. Oil must always be between the marks on the dipstick. Refer to engine manual for oil change intervals.

To change oil, park track on a level surface, remove key, put steering lever in the neutral lock position and apply parking brake. Place an oil pan under the drain plug, located at the front of the base, and remove drain plug. Remove the old filter. Lubricate gasket on new

filter with new oil and install. Tighten filter by hand only. Replace oil drain plug and add new oil (oil fill hole located on aft valve cover). DO NOT overfill. See engine manual for capacity, API service class and viscosity.

WARNING: During normal operation, oil heats to a level that may cause severe burns. Allow engine to cool before service**.**

ENGINE AIR FILTER

MTS2611K

Clean/change outer element every 150 hours. Clean/change inner element every 250 hours.

These procedures should be performed more often in dusty conditions. See engine manual for further instructions.

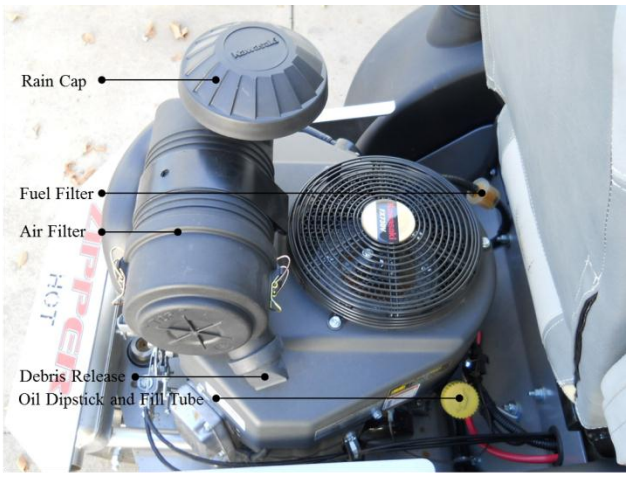


Figure 02A

ENGINE COOLING SYSTEM

The engine is an air-cooled unit. Grass, chaff or dirt may clog the rotating screen and the air-cooling system. Yearly or every 100 hours remove the cooling shrouds and clean cooling fins. Also, clean dirt and oil from the external surfaces of engine, this may also cause improper cooling. In dusty conditions clean more often.

ENGINE COOLING SYSTEM (CONT.)

IMPORTANT: Never attempt to make engine adjustments while engine is running. Do not operate engine without cooling shrouds installed, this will cause overheating.

FUEL SYSTEM

WARNING: Observe usual fuel handling precautions. Do not smoke while refueling. Do not fill tank with engine running or while engine is hot. Keep fuel away from open flame or spark. Keep fuel in proper container. Read and observe all safety precautions in this manual.

Fuel capacity is 10 gal. tank is located behind seat. Always use clean fresh fuel. Unleaded gasoline is recommended. See manual for further recommendations.

An inline fuel filter is located just before the engine. If filter becomes clogged, it should be replaced.

There is a fuel shutoff valve located forward of the engine. This valve should be closed to prevent fuel loss when changing filters, doing other engine work or transporting machine.

Figure 06D

TILTING THE CUTTING DECK FOR SERVICE

WARNING: Never handle the deck while engine running.

IMPORTANT: Always place mower on flat level surface before tilting deck. Always use the Effortless Deck Lift System (**EDLS**) to tilt deck never manually tilt deck; this will allow the flip link to fall below the slide tube on the tractor.

SHUT THE ENGINE OFF and set parking brake.

1. Stand in front of the deck facing the machine and raise the cutting deck until the deck adjustment pins are loose using the cutting deck lift switch (Figure 05A).
2. Remove the two deck adjustment pins and lift up the deck using the gauge wheels or the nose roller and raise the deck into a vertical position. While holding the deck in the vertical position, lower the deck to the ground using the cutting deck lift switch (Figure 07A).
3. Place the deck adjustment pins in the deck lockup holes located in the lift brackets.
4. To lower deck remove the cutting deck adjustment pins from the lock up holes and
5. lower the front edge of the cutting deck to the ground.
6. Raise the back of the deck to the desired cutting height and replace the adjustment pins in the adjustment brackets.

WARNING: Never transport machine with deck in service position; this can damage the lift mechanism. Never service deck without safety pin installed. Never operate machine with deck in service position.

Figure 05A

TILTING THE CUTTING DECK FOR SERVICE (CONT.)

Figure 07A

DECK HEIGTH ADJUSTMENT

WARNING: shut off engine and remove key before adjusting cut position.
Cutting height can be adjusted from 1” to 5” on all decks.
To adjust, raise deck, remove front adj. nuts and bolts and place them in desired cutting height and replace bolts. Relieve pressure on rear pins using deck lift and remove pins and adjust back of deck. For best cutting results, in most conditions, the back of the cutting deck should be 1/4” to 1/2" higher than the front.

Figure 06B

LUBRICATON

NOTE: The best time to grease the bearings **on** your **ZIPPER** is right after you have completed mowing and cleaned the machine.

NOTE: Use SAE multi-purpose grease on all grease zerks.

There are nine grease zerks on the machine. The deck gauge wheel and tail wheel bearings should be greased every 8 hours. The spindle bearings and gauge fork and tail fork bearings should be greased every 40 hours

Figure 06A

BLADE CARE

DANGER: Never inspect or remove blades with engine running or key in ignition. Always remove key and set parking brake.
NOTE: For best cut quality keep the mower blades sharpened and balanced.
To service blades, tilt and lock deck using the EDLS (see tilting deck for service section). Do not sharpen blades while mounted on the spindles. Blades may be sharpened on a grinder or by filing. When grinding, care should be used to maintain blade balance. A blade balancer should be used after sharpening. Unbalanced or bent blades will cause excessive vibration and decrease the life of the deck

WARNING: Never use any form of heat to straighten a bent blade. Never weld a cracked or broken blade- **REPLACE THEM.**

BELTS

BLADE CARE (CONT.)

WARNING: Never check, adjust or change any belt with engine running.

NOTE: Do not over tighten any belt. A belt that is to tight will run hotter, create unnecessary side pressure on bearings and cause premature failure of belts and bearings.

DECK DRIVE BELT

WARNING: Never check, adjust or change any belt with engine running.

TO ADJUST:

1. Loosen the two arm retaining bolts on both deck arms.
2. Loosen the lock nut on the deck belt adjustment bolt. Turn the adjusting bolt clockwise to tighten the belt. Both arms must be adjusted the same amount when adjusting.
3. The deck drive belt should have 1/2" of deflection from the centerline with 5 lbs. of force.
4. Retighten lock nuts on adj. bolts and tighten arm retainer bolts.

TO REPLACE:

NOTE: Also check the hydraulic pump belt at this time. It is a good idea to change both belts at same time.

1. Loosen arm retainer bolts on right arm only. Turn adjusting bolt counterclockwise to loosen belt.
2. Remove belt guard from gearbox.
3. Loosen clutch stop and slide fwd. Unplug wires to electric clutch.
4. Remove belt and install new one.
5. Reverse steps 1-3
6. Adjust belt tension (see Above). New belts should be rechecked after 5 hrs.
7. Adjust L/H deck arm to same length as R/H

BLADE DRIVE BELT

TO ADJUST:

WARNING: Never check, adjust or change any belt with engine running.

1. Remove L/H and large center deck cover.
2. Loosen nut on belt tightener retainer bolt.
3. Adjust tension bolt to obtain proper tension on belt. Deflection on longest span should be 5/8 from centerline with 5 lbs force.

WARNING: Do not operate machine without all belt guards and deck covers in place.

TO REPLACE:

1. Loosen deck drive belt.
2. Remove all deck covers.
3. Loosen belt tightening retaining bolt and adjustment bolt.
4. Unbolt gearbox mount from deck and remove the belt from under gearbox pulley.
5. Loosen the 5” idler pulley and remove the belt from between the front spindle pulley and the 5” idler.
6. Replace with a factory replacement belt.
7. Place new belt around the two outer spindle pulleys and between the 5” idler and center pulley. Tighten idler at this point.
8. Place belt over the gearbox and reinstall the gearbox mount.
9. Adjust the blade drive (see above). Readjust new belts after 5 hours.
10. Replace deck covers
11. Adjust deck drive belt (see deck drive belt section)

TRANSMISSION DRIVE BELT

TO ADJUST:

WARNING: Never check, adjust or change any belt with engine running.

1 Shut off the engine, remove key and set parking brake.
2 Loosen jam nut on tension eye-bolt (located on the upper hydraulic pump)
3 Tighten nut on aft side of mount bracket to increase tension on belt. Belt should have 1/2 " deflection with 5 lbs force.
4 Tighten jam nut.

WARNING: Never check, adjust or change any belt with engine running.

1. Shut off engine, remove key and set parking brake.
2. Loosen deck drive belt and remove from the electric clutch (see deck drive belt section)
3. Loosen transmission belt tension eye-bolt and remove old belt.
4. Install new belt and adjust tension
5. Replace deck drive belt (if old belt is worn it is a good idea to change at this time also)
6. Readjust clutch stop and attach clutch wire.
7. Adjust deck drive belt.

STEERING LINKAGE

TO ADJUST:

The machine has been set at the factory so that it will not creep forward or backward while the engine is running and the steering levers are in the neutral lock position. However, if the machine should begin to creep or one wheel runs faster than the other, adjustments must be made. Contact authorized **ZIPPER** dealer for steering linkage adjustment.

ELETRIC CLUTCH

TO ADJUST:

A sign that the electric clutch is out of adjustment is when the clutch will engage with the clutch cool but not when the clutch is warm. Take machine to authorized **ZIPPER** dealer for clutch adjustment.

EXTERIOR SURFACE

The machine should be washed regularly to maintain its appearance.

WARNING: When washing the inside of machine, **DO NOT** direct water spray

around the hydraulic oil tank breather cap. The mower deck should be cleaned after each day of use for best mowing results. Water pressure from a garden hose will clean the underside of the deck if the grass clippings have not dried. Otherwise, a putty knife or other flat object may be needed to remove dried clippings and dirt.

IMPORTANT: Every 40 hrs or each week clean debris from inside deck covers. Failure to do this may cause damage to deck idler pulleys and/or the deck gearbox.

WARNING: Do not operate machine without all guards and covers in place.

STORAGE:

To insure the machine will be ready for the next mowing season, the following steps should be taken when storing the machine at the end of the season.

1. Wash the machine to remove all grass, dirt and debris.
2. Visually inspect for any worn or damaged parts that need replaced and order them from your **ZIPPER** dealer.
3. Lubricate the machine according to lubrication instructions.
4. Lightly oil the underside of deck to prevent rusting.
5. Drain fuel tank and run engine to remove all gas from carburetor.
6. Perform other engine operations as outlined under storing engine in the engine manual.
7. Remove battery and store in a dry place. Protect the battery from freezing temperatures. Occasionally charging the battery during storage will extend battery life.
8. Store machine in dry place away from flames

MAINTEANCE SCHEDULE

Ref	Service at Intervals Indicated	Daily Before Operation	Daily After Operation	4 Hr.	8 Hr.	25 Hr	40 Hr	100 Hr	500 Hr
A	Verify Ignition Safety System	X							
A	Check Engine Oil	X		X					
A	Check Hydraulic Oil	X							
A	Visually Inspect Tractor	X							
A	Visually Inspect Tires	X							
A	Clean Underside of Deck		X						
A	Lube Deck Gauge Wheels				X				
A	Lube Tail Wheel				X				
B	Clean Air Filter Element					X			
A	Lube Gauge Wheel Fork Tubes						X		
A	Lube Tail Wheel Fork Tube						X		
A	Check Oil in Gearbox						X		
A	Lube Spindle Housing						X		
A	Check Battery and Connections						X		
C	Change Engine Oil (2)							X	
C	Change Oil Filter (2)							X	
B	Change Air Filter Cartridge (1)							X	
A	Check Tire Pressure						X		
A	Torque Wheel Nuts							X	
A	Change Hydraulic Oil & Filter (3)								X
A	Change Gearbox Oil								X

NOTES:	REFERENCE:
1. More often under dusty conditions	A-See Operators Manual
2. Initial oil and filter change is at 5 hrs.	B-See Engine Manual
3. Initial filter change is at 100 hrs	C-See Both Operators and Engine Manuals

Figure 00

TROUBLE SHOOTING GUIDE

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
Starter Does Not Crank	Ignition Interlock Safety System Not Engaged	Engage System
	Safety Switch Faulty	Replace Switch
	PTO Switch in On Position	Put Switch in Off Position
	PTO Switch Faulty	Replace Switch
	Weak or Dead Battery	Recharge or Replace Battery
	Fuse Blown	Replace Fuse
	For Additional Causes	See Owner's Manual
Engine Cranks But Does Not Start	No Gas or Line Plugged	Fill Tank or Replace Line
	No Fire at Spark Plug	Clean or Replace Spark Plug See Engine Manual or Dealer
	Numerous Other Causes	See Engine Manual or Dealer
Engine Runs with Loss of Power or	Restriction in Air Cleaner	Service Air Cleaner
Excessive Black Exhaust	Poor Compression or Timing	See Engine Manual or Dealer
Tractor Jerky When Starting or Tractor Operates In One Direction Only	Steering Cables Need Adjustment	Adjust Cables
	Hydraulic Pump or Wheel Motor Faulty	See Your Dealer
	Oil has been Contaminated with Water or Dirt	Drain Oil From System and Replace or See Your Dealer
Hydraulic System Operating Hot	Damaged or Broken Fan	Replace Fan
	Cooling fins or Oil Cooler Plugged	Clean Cooling Fins and/or Oil Cooler
	Hydraulic Pump Faulty	See Your Dealer
Tractor Creeps When Steering Levers Are In Neutral	Steering Cables Out of Adjustment	Adjust Steering Cables
	Wheel Motor Faulty	See Your Dealer
Tractor Creeps or Veers in One Direction	Steering Cables Out of Adjustment	Adjust Steering Cables
	Wheel Motor Faulty	See Your Dealer
Tractor Creeps with Parking Brake Engaged	Steering Cables Out of Adjustment	Adjust Steering Cables
	Brake Band Out Of Adjustment	Adjust Brake Band
	Brake Band Worn	See Your Dealer
Engine Over Heating	Intake Screen Clogged	Clean Screen
	Cooling Fins Clogged	See Engine Manual for Cleaning
Engine Oil Pressure Low	Low Oil Level	Add Oil
	Oil Sending Unit Faulty	See Your Dealer
	Oil Diluted or Grade Too Light	Change Oil and Check for Source of Contamination
High Oil Consumption	Numerous Causes	See Engine Manual
Engine Knocks and Other Engine Noises	Numerous Causes	See Engine Manual
Electric Clutch Will Not Engage	Loose or Faulty Wiring	Check Wiring
	Seat Switch Faulty	Change Seat Switch
	Clutch Out of Adjustment	See Your Dealer
Grass Cut Uneven	Deck Height Adjustment Not Even on Both Sides	Adjust Height
	Tire Pressure Uneven	Check Tire Pressure

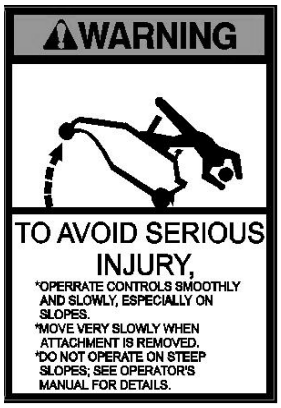
SYMBOLS AND DECALS

These decals have been placed on the deck to instruct the operator and to warn of safety hazards. It is very important that they are in place and visible at all times. Replace damaged or missing decals immediately.

Order by part numbers shown.

1006004

1006003

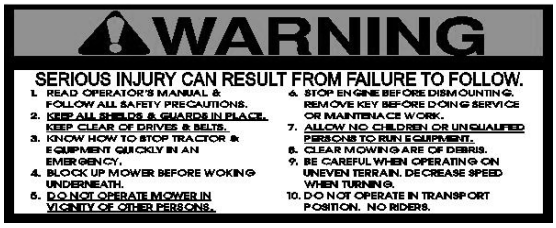


1006006

1006067

CAUTION
SHUT OFF ENGINE BEFORE REFUELING.
NEVER FILL TANK INDOORS OR WHEN
ENGINE IS HOT.
WIPE UP ALL SPILLED GASOLINE BEFORE
STARTING ENGINE.
DO NOT SMOKE WHILE REFULING.

1006001


WARNING
SERIOUS INJURY CAN RESULT FROM FAILURE TO FOLLOW.
1. READ OPERATOR'S MANUAL & FOLLOW ALL SAFETY PRECAUTIONS.
2. KEEP ALL SHIELDS & GUARDS IN PLACE. KEEP CLEAR OF DRIVES & BELTS.
3. KNOW HOW TO STOP TRACTOR & EQUIPMENT QUICKLY IN AN EMERGENCY.
4. BLOCK UP MOWER BEFORE WOKING UNDERNEATH.
5. DO NOT OPERATE MOWER IN VICINITY OF OTHER PERSONS.
6. STOP ENGINE BEFORE DISMOUNTING. REMOVE KEY BEFORE DOING SERVICE OR MAINTENANCE WORK.
7. ALLOW NO CHILDREN OR UNQUALIFIED PERSONS TO RUN EQUIPMENT.
8. CLEAR MOWING ARE OF DEBRIS.
9. BE CAREFUL WHEN OPERATING ON UNEVEN TERRAIN. DECREASE SPEED WHEN TURNING.
10. DO NOT OPERATE IN TRANSPORT POSITION. NO RIDERS.

1006005

WARNING
DO NOT ALTER ELECTICAL SYSTEM
WRONG WIRING CONNECTIONS WILL DAMAGE
ELECTRICAL COMPONENTS AND MAY MAKE
THE SAFETY SWITCHES INOPERABLE

1006002

ZIPPER MOWERS LLC WARRANTY POLICY & PROCEDURES
EFFECTIVE: MAY 1, 2011

1. ZIPPER MOWERS LLC WARRANTS ITS PRODUCTS AGAINST MANUFACTURER'S DEFECTS UPON DATE OF DELIVERY TO THE ORIGINAL END-USER FOR FIVE YEARS (60 MONTHS) OR 1000 HOURS, WHICHEVER OCCURS FIRST FOR COMMERCIAL USE, NINETY (90) DAYS OR 150 HOURS FOR RENTAL APPLICATIONS. WORK MUST BE PERFORMED BY ANY AUTHORIZED ZIPPER DEALER. THIS COMMERCIAL/RESIDENTIAL WARRANTY COVERS PARTS AND LABOR FOR TWO (2) YEARS AND PARTS ONLY (NO LABOR) FOR THREE (3) YEARS. ALL ENGINE WARRANTIES ARE COVERED THROUGH AUTHORIZED KOHLER/KAWASAKI/GENERAC DEALERS. THE WHEEL MOTORS & PUMPS ARE COVERED BY HYDRO-GEAR OR WHITE HYDRAULIC AUTHORIZED DEALERS. THERE IS A LIMITED LIFETIME WARRANTY ON DECK ARMS (NOT HEIM JOINT), FRONT EDGE OF DECKS AND FRONT FORKS. THIS WARRANTY EXCLUDES WEAR PARTS.

2. ALL BELTS, BATTERY AND TIRES WILL BE COVERED FOR 60 DAYS BY ZIPPER MOWERS LLC.

3. ALL TRACTORS, MOWER DECKS AND DEALER INSTALLED ATTACHMENTS MUST HAVE OWNER REGISTRATION CARD THAT IS SUPPLIED WITH THE NEW PRODUCT, SIGNED AND RETURNED WITHIN 30 DAYS OF DELIVERY AND/OR PLACED IN SERVICE.

4. WARRANTY CLAIM MUST BE PROPERLY COMPLETED AND FILED ON A ZIPPER MOWERS LLC WARRANTY CLAIM FORM.

5. WARRANTY CLAIM MUST BE FILED BY THE AUTHORIZED DEALER WITH ZIPPER MOWERS LLC WITHIN 30 DAYS AFTER REPLACEMENT OF PARTS.

6. ALL DEFECTIVE PARTS MUST BE REPLACED WITH FACTORY SUPPLIED OEM REPLACEMENT PARTS.

7. DEFECTIVE PARTS MUST BE RETURNED FREIGHT PREPAID TO ZIPPER MOWERS LLC, 411 OSAGE ST., AUGUSTA KS. 67010 TO ATTENTION OF THE WARRANTY DEPARTMENT. ALL DEFECTIVE PARTS MUST BE RETURNED WITHIN 30 DAYS WITH A COPY OF THE CLAIM FORM, OR THE COST OF THE PART WILL BE BILLED BACK TO THE DEALER.

8. WARRANTY CLAIM WILL BE PROCESSED UPON RECEIPT OF THE WARRANTY CLAIM AND FAILED PART(S), AND WILL ISSUE NOTIFICATION OF APPROVAL OR DISAPPROVAL WITHIN 30 DAYS.

9. APPROVED WARRANTY CLAIM WILL BE PROCESSED AND APPLIED AS A CREDIT TO DEALERS OPEN ACCOUNT. CREDIT WILL INCLUDE APPLICABLE PARTS AND LABOR AND A 15% HANDLING REIMBURSEMENT FOR PARTS ONLY. THE FILE COPY OF THE APPROVED CLAIM AND THE CREDIT MEMORANDUM WILL BE RETURN MAILED. FOR QUESTIONS OR FURTHER INFORMATION PLEASE CONTACT ZIPPER MOWERS LLC WARRANTY DEPARTMENT AT 1-877-859-7766 OR BY FAX AT 316-775-7464.

Learn More at www.zippermowers.com or Call Toll Free 877-859-7766

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